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# Talk-Z User Guide



**Version 1.1**

**MCT CO., LTD.**

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# 1 Product overview

## 1.1 Overview

MCT's Talk-Z is designed to optimize wireless communication bridging Z-Wave to WiFi. Talk-Z is ideal for home and office automation applications.

Talk-Z is a network device bridging communications between Z-Wave devices and Wi-Fi AP in the customer premises which allows for customers to monitor and control Z-Wave devices everywhere through Smart phone and PC.

Talk-Z can be conveniently installed in AC power outlets at home, which extends the network accessibility of Z-Wave devices beyond home though seamless communication with Wi-Fi AP connected to Internet.

Built-in AC plug of Talk-Z supports Plug & Play style installation with two buttons, that one for Z-Wave pairing and another for Wi-Fi connection.

Talk-Z hosts internal web-server, referred to as Talk-Z control panel, for status monitoring and execution of Z-Wave commands such as inclusion, exclusion, adding device, learn mode, and reset, etc.

This user guide is intended to be used for testing, developing, or generally using MCT's Talk-Z device.



[Service configuration]

## 1.2 Specifications

Items	Specification & Description
OS	Linux
Z-Wave	Sub-GHz Bands(Korea: 917.7, 921.7, 923.1MHz)
WiFi	IEEE802.11b/g/n, 2.4GHz
WiFi Mode	AP mode and Station mode
Security	AES128
Power	110/220VAC +/-20%
Button	2ea(Z-Wave pairing, WiFi AP mode on/off)
LED	3ea(Power, Z-Wave, WiFi)
Dimension	71 x 96 x 23mm(W/O AC plug part)

## 1.3 Description of Buttons & LEDs

Icons	Description
	<ul style="list-style-type: none"> <li>● Wi-Fi AP mode On button</li> <li>● To enter AP mode, press the button 3 times</li> </ul>
	<ul style="list-style-type: none"> <li>● Z-Wave Pairing button</li> <li>● To Include, press the button long 1 time</li> <li>● To exclude, press the button short 2 times</li> </ul>
	<ul style="list-style-type: none"> <li>● Power On LED</li> </ul>
	<ul style="list-style-type: none"> <li>● Status LED of Z-Wave</li> <li>● Inclusion : LED blinks long 1 time</li> <li>● Exclusion LED blinks fast 2 times</li> </ul>
	<ul style="list-style-type: none"> <li>● Status LED Wi-Fi</li> <li>● Off : Station mode</li> <li>● Blinks 1 time : Entering AP mode</li> <li>● Blinks continues : Disconnection of Wi-Fi</li> </ul>

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## 2 Glossary

The following terms are frequently used in all Z-Wave documentation, user guides, and other reference material used in parallel with Talk-Z device.

### ***Add Mode (Inclusion)***

Node inclusion, also known as **Add Mode**, refers to the process of adding a node to an existing Z-Wave network.

### ***Remove Mode (Exclusion)***

Node exclusion, also known as **Remove Mode**, refers to the process of removing a node to from existing Z-Wave network.

### ***Replication***

**Replication** refers to the process of copying the network information from one controller to another; replication is used during Learn Mode to copy the primary controller's Z-Wave network information to the secondary controller's routing table.

### ***Learn Mode***

**Learn Mode** is the state in which a slave or controller device can be added to an already existing Z-Wave network.

### ***Lifeline***

**Lifeline** is used in conjunction with both the Association Command Class and the Association Group Information(AGI) Command Class. All associated devices added to the Talk-Z gateway will automatically create a Lifeline (Group 1) through the AGI and the Association Command Classes.

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## 3 Controlled and Supported Command Classes

As Talk-Z is designed to be a universal controller, its main job in the Z-Wave network is to control slave devices. All following command classes are controlled by the Talk-Z gateway. The term controlled implies that all commands are sent from the gateway to the slave device.

- Basic Command Class
- Association Command Class
- Association Group Information Command Class
- CRC-16 Command Class
- Security Command Class
- Wake Up Command Class

In addition, the Talk-Z also supports the following command classes. The term support refers to commands sent from slave devices to the gateway controller. The Talk-Z controller supports the following command classes:

- Z-Wave Plus Information Command Class
- Application Busy Command Class
- Association Command Class
- Association Group Information Command Class
- CRC-16 Command Class
- Device Reset Locally
- Manufacturer Specific Command Class
- Power Level Command Class
- Security Command Class
- Version Command Class

### 3.1 Association Command Classes

Several association classes are used between end point nodes and the Talk-Z gateway for the purposes of updating the server with near-real-time information regarding the nodes.

In its current rendition, Talk-Z uses only one Grouping Identifier: Group 1. It should also be noted that association is triggered when "Always On" devices are added to the network. All devices that support association are added automatically as Lifeline devices into the Z-Wave network of the Talk-Z. The maximum number of association devices the Talk-Z can support is 250.

Note: Z-Wave Protocol states that a maximum of 250 Z-Wave devices can be part of the same network, including the controller.

### 3.2 Basic Command Classes

The Basic Command Class allows for the controller to control the basic

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functionality of a device without knowing much else about the device itself. The Talk-Z gateway controls this Basic Command Class after the device is added to its Z-Wave network. This basic functionality is controlled without bias towards the manufacturer of the device, and it supports toggling the device with a basic on/off. This means that if a device is unknown, then at least a basic on/off command can be sent to it for minimal control.

### **3.3 Configuration Command Class**

The Configuration Command Class makes it possible to change the settings of a device from the factory defaults. For preferred devices, through Talk-Z control panel automatically sends some configuration parameters for optimal Z-Wave functionality. However, if an added device supports configuration, then the Talk-Z mashup allows the user to enter parameter-value pairs. Please refer to the [Adding a Device](#) section for more information.

### **3.4 Security Command Class**

The Talk-Z is Security Enabled Z-Wave Products. This ensures that this product both controls and supports the Security Command Class.

## 4 How to Setup

To set Talk-Z, connect Talk-Z through Wi-Fi with PC or smart phone at first. The following steps show how to connect Talk-Z through Wi-Fi;

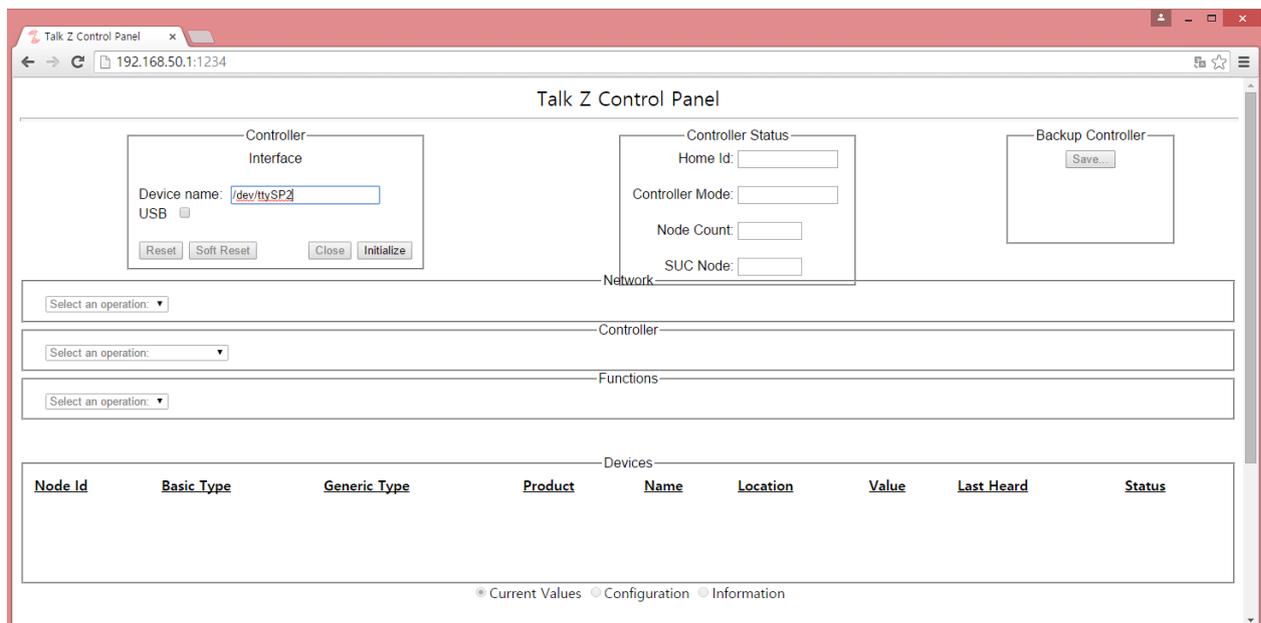
1. Press the  button on Talk-Z 3 times shortly and then Wi-Fi mode of Talk-Z's changed to AP mode.
2. Using PC or smart phone, connect to Talk-Z
  - Talk-Z SSID : "TalkZ-xxxxxx"(6 characters)
  - Talk-Z default password : "1234567890"

Now you can connect to webserver of Talk-Z through web browser on your PC, smart phone or tablet.

- Web browser : Internet explorer or Chrome
- Connecting address : <http://192.168.50.1:1234>
- 192.168.50.1 means default IP of Talk-Z.
- 1234 means webserver port number of Talk-Z.
- And input the serial port name( `"/dev/ttySP2"` ) and press Initialize button.

When you connect webserver of Talk-Z, you can see the main page of Talk Z control panel.

On the Talk Z control panel, you can execute controlled and supported commands of Talk-Z such as adding nodes, removing nodes, resetting Talk-Z, etc.



Node Id	Basic Type	Generic Type	Product	Name	Location	Value	Last Heard	Status
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## 4.1 Adding a Device

When adding a node, select the “Add Device” drop box in the gui, and then press “go” button. Afterwards press the button on the physical device. The status field will confirm whether the node was added or not. In some cases it necessary to press the node list button to get an updated node list.

### Before Add Device

The screenshot shows the 'Talk Z Control Panel' web interface. The 'Add Device' dropdown menu is open, displaying a list of operations including 'Add Device', 'Create Primary', 'Receive Configuration', 'Remove Device', 'Remove Failed Node', 'Has Node Failed', 'Replace Failed Node', 'Transfer Primary Role', 'Request Network Update', 'Request Node Neighbor Update', 'Assign Return Route', 'Delete All Return Routes', and 'Send Node Information'. The 'Controller' section has 'Device name: /dev/ttySP2' and 'USB' selected. The 'Controller Status' section shows 'Home Id: ddaaf3f2', 'Controller Mode: Primary', 'Node Count: 1', and 'SUC Node: 0'. The 'Devices' table lists one device: Node 1, BASIC\_TYPE\_STATIC\_CONTROLLER, SPECIFIC\_TYPE\_PC\_CONTROLLER, MCT Co., Ltd. Talk Z, with status 'Ready'.

### After Add Device, and then press the button on the physical device.

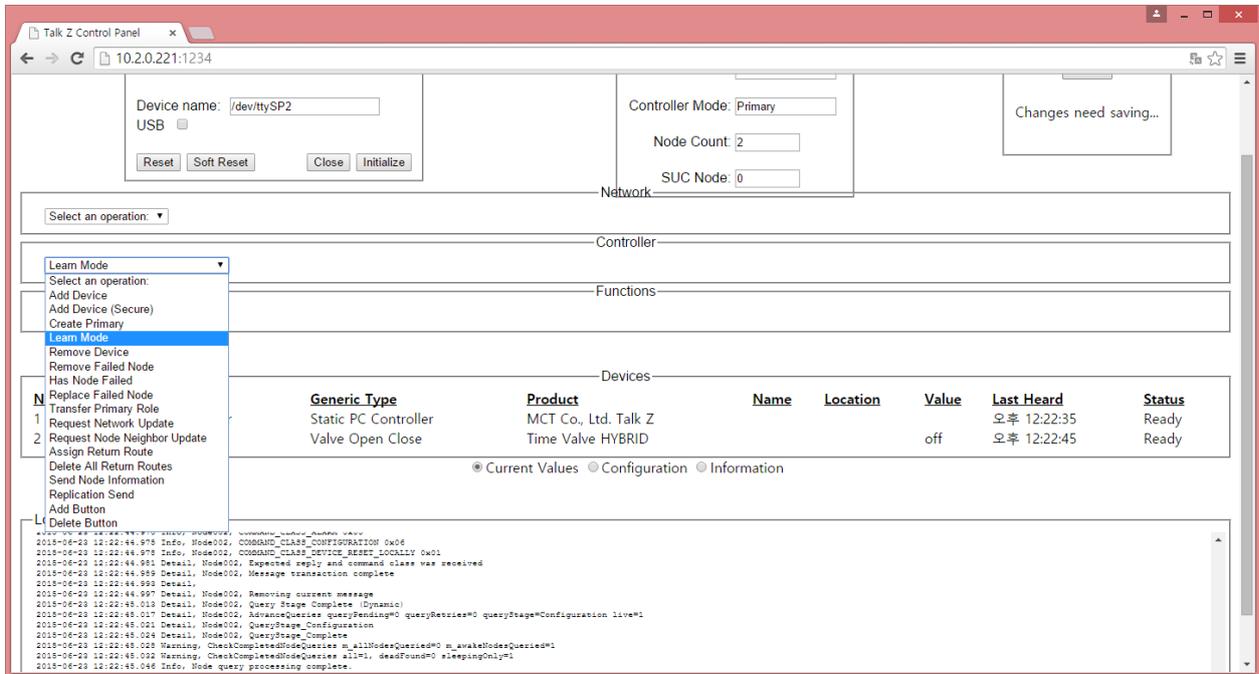
The screenshot shows the 'Talk Z Control Panel' web interface after adding a device. The 'Add Device' dropdown menu is now closed, and the 'Go' button is highlighted. A message box says 'Add Device: command has completed successfully.'. The 'Devices' table now shows two devices: Node 1 (BASIC\_TYPE\_STATIC\_CONTROLLER, SPECIFIC\_TYPE\_PC\_CONTROLLER, MCT Co., Ltd. Talk Z, status 'Ready') and Node 2 (BASIC\_TYPE\_ROUTING\_SLAVE, SPECIFIC\_TYPE\_SECURE\_KEYPAD\_DOOR\_LOCK, Unknown: id=0212 Unknown: type=1000, id=1000, status 'Ready').



### 4.3 Adding Talk-Z as a Secondary Device

When Talk-Z can become a secondary controller, select the “Learn Mode” drop box in the gui.

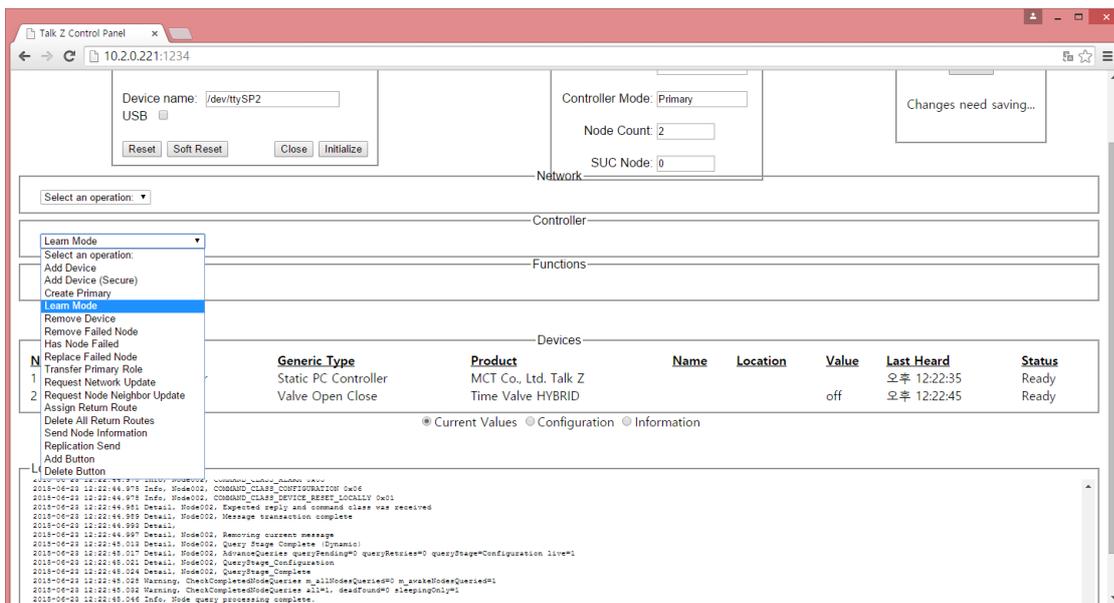
Afterwards, press Add Mode on the primary or Inclusion Controller.



### 4.4 Removing Talk-Z as a Secondary Device

In order to remove Talk-Z Controller, select the “Learn Mode” drop box in the gui.

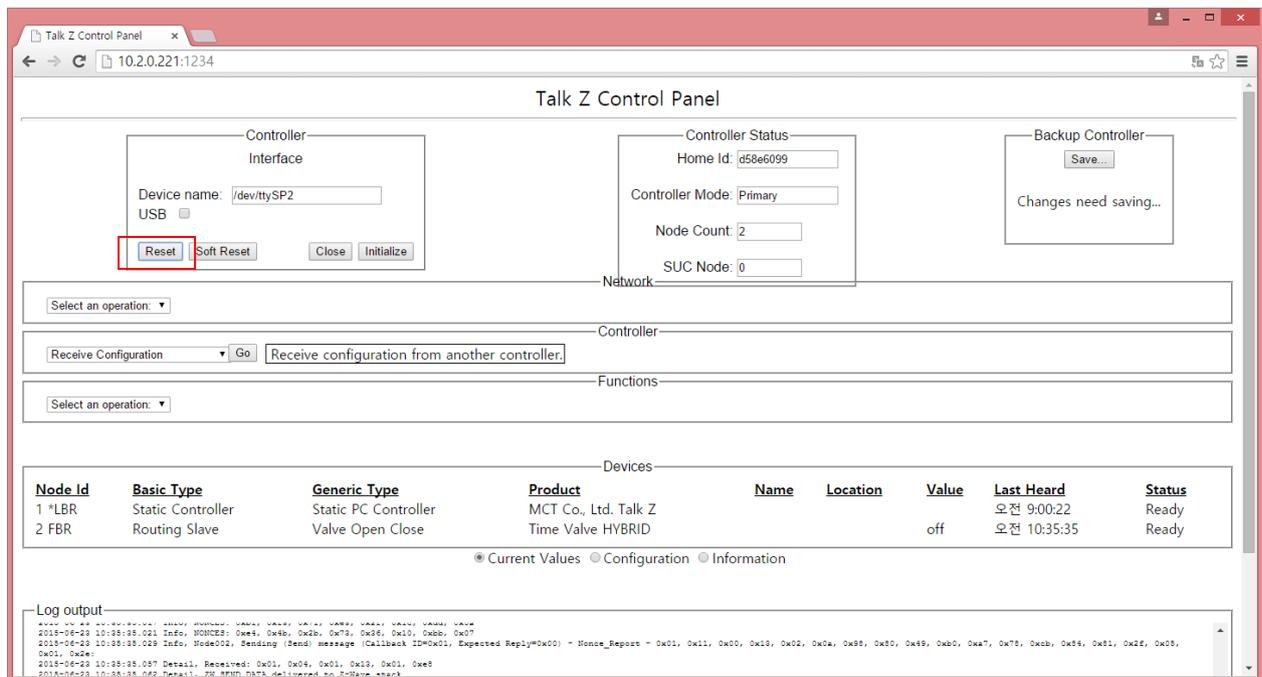
Afterwards, press Remove Mode on the primary or Inclusion Controller.



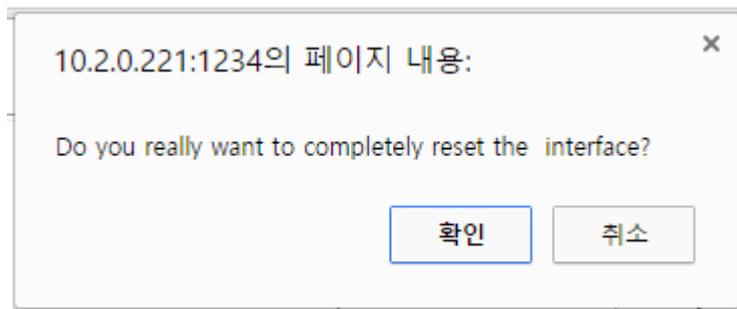
## 4.5 Resetting Z-Wave Default

"Use this procedure only when the network primary controller is missing or otherwise inoperable."

Z-Wave configurations will return to their factory defaults.  
Press the Reset button on gui.



If you press the reset, pop up windows appeared to confirm reset



If you confirm to reset, Press yes button.